

Anorectal motility in the irritable bowel syndrome

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Author contributions: All authors contributed equally to the work.

Original title: *China National Journal of New Gastroenterology* (1995-1997) renamed *World Journal of Gastroenterology* (1998-).

Received: December 11, 1995

Revised: January 21, 1996

Accepted: April 19, 1996

Published online: September 15, 1996

Abstract

AIM: To investigate the change of rectoanal function in patients with irritable bowel syndrome (IBS), the rectoanal manometry and function of defecation in patients with IBS and normal subjects were studied.

METHODS: The rectoanal manometry was done in 30 patients with diarrhea predominant type IBS (Dp-IBS), 20 patients with constipation predominant type IBS (Cp-IBS) and 11 normal subjects using the HR PC Polygraph GI motility system with eight channel perfused catheter with balloon.

RESULTS: (1) The rectal resting pressure, the resting pressure and the maximum squeeze pressure of the anal sphincter were 10.66 ± 3.68 mmHg, 62.58 ± 17.51 mmHg, 108.11 ± 20.67 mmHg in the Dp-IBS, 9.63 ± 3.02 mmHg, 68.45 ± 17.58 mmHg, 109.48 ± 20.11 mmHg in the Cp-IBS and 9.52 ± 2.81 mmHg, 64.33 ± 21.83 mmHg, 112.73 ± 28.16 mmHg in the normal subjects respectively, and no significant differences among 3 groups ($P > 0.05$). (2) The lengths of high pressure zone in the Dp-IBS and Cp-IBS were 2.95 ± 0.46 cm and 3.10 ± 0.68 cm, respectively and significantly higher than normal subjects (2.64 ± 0.60 cm) ($P < 0.0005$). (3) The rectal sensitivity, maximum tolerance, compliance and the rectal capacity

causing rectoanal inhibitory reflex were 57.67 ± 22.27 mL, 188.67 ± 83.78 mL, 4.43 ± 0.94 mL/mmHg, 76.17 ± 18.74 mL in the Dp-IBS and 81.82 ± 26.28 mL, 299.09 ± 60.08 mL, 6.21 ± 1.04 mL/mmHg, 105.45 ± 22.41 mL in normal subjects respectively and those in the Dp-IBS significantly lower than those in normal ($P < 0.005$); The anal sphincter relaxation rates were $77.17 \pm 11.11\%$ in the Dp-IBS and $75.03 \pm 13.71\%$ in normal subjects respectively, and no significant difference between them ($P > 0.05$). (4) The rectal sensitivity was 81.75 ± 34.02 mL in the Cp-IBS and nearly same as normal subjects ($P > 0.05$); The maximum tolerance and the rectal capacity causing rectoanal inhibitory reflex in the Cp-IBS were 348.11 ± 75.02 mL and 133.55 ± 47.81 mL, respectively, and significantly higher than those in normal subjects ($P < 0.05$); The rectal compliance and anal sphincter realization rate were 4.60 ± 0.98 mL/mmHg and $50.28 \pm 10.84\%$, respectively and significantly lower than those in normal subjects ($P < 0.05-0.0005$).

CONCLUSIONS: (1) At resting state, the function of rectal and anal in patients with IBS were normal. (2) Rectal sensitivity in patients with Dp-IBS increased, but their tolerance and compliance reduced and rectal small amount distention-stimulated can caused defecation reflex, so sensation urgency and diarrhea occurred. (3) In patients with Cp-IBS the rectal sensitivity to distention-stimulated reduced and defecation reflex were disordered and enough amount of rectal distention stimulated can't cause rectoanal inhibitory reflex. So defecation difficulty and constipation occurred. (4) The pathogenesis and basis of pathophysiology were different between patients with Dp-IBS and Cp-IBS.

Key words: Ano-rectal motility; Irritable bowel syndrome

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Xie Y, Huan Y, Wang CW. Anorectal motility in the irritable bowel syndrome. *World J Gastroenterol* 1996; 2(Suppl1): 219 Available from: URL: <http://www.wjgnet.com/1007-9327/full/v2/iSuppl1/219.htm> DOI: <http://dx.doi.org/10.3748/wjg.v2.iSuppl1.219>

E- Editor: Liu WX



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